

Courtesy of New South Construction, photo by Aerial Innovations



Project name: Laredo Bus Facility
Solar Canopies

Transit agency: Metropolitan Atlanta
Rapid Transit Authority (MARTA)

Location: Decatur, Georgia

TIGGER goal: Energy reduction

FTA region number: IV

Award amount: \$10,800,000

Congressional district:
GA-4; GA-5; GA-6; GA-13

Funding mechanism:
Recovery Act (ARRA)

MARTA Offsets Electricity Use by Installing PV-Integrated Shade Canopies at its Laredo Bus Facility

The Metropolitan Atlanta Rapid Transit Authority (MARTA) recently started producing its own green electricity with the integration of 4,888 photovoltaic (PV) panels on new shade canopies at its Laredo facility. The PV system will produce about 1.2 million kWh per year, making it the largest system in Georgia and the second largest system at any transit agency in the United States.



The PV-integrated canopies were installed at the bus storage lot at MARTA's Laredo Bus Operations and Maintenance Facility thanks to a \$10.8 million TIGGER award. The canopies cover 212 bus parking stalls across 190,000 square feet. The steel and concrete structures protect vehicles from sun and weather while allowing natural daylight to penetrate. Energy-efficient LED lighting installed on the underside of the canopies provides ample night lighting for safety and maintenance.

The Metropolitan Atlanta Rapid Transit Authority (MARTA)

is the ninth largest transit system in the United States and began operating bus service in 1972 and heavy rail service in 1979. MARTA provides comprehensive fixed route bus, heavy rail, and paratransit service, with nearly 500,000 passenger boardings each weekday. It serves as the backbone for the greater-Atlanta regional transit network. MARTA currently operates a fleet of 537 buses. The rail system consists of four lines with a total of 47.6 miles and 318 railcars serving 38 stations. The paratransit fleet consists of 174 lift-equipped vehicles.



Courtesy of New South Construction, photo by Aerial Innovations

Solar canopy at the MARTA Laredo Bus Facility.

MARTA expects the new grid-tied PV system to generate about \$159,000 in electricity cost savings each year and to offset approximately 0.6% of its total annual electricity use. All told, the system is expected to produce 54 million kWh over its anticipated 45-year lifespan.

Operations at the Laredo facility consume 3.2 MWh of electrical power a year. The installed PV capacity has an estimated peak generating capacity of 900 kW. The design of the canopies allows for the future installation of additional PV panels, permitting MARTA to double its green electricity production.

Impact:

MARTA expects the new grid-tied PV system to produce about 1.2 million kWh/year, making it the second largest PV system at any transit agency in the nation.

This project was born in Georgia's backyard—the Georgia Institute of Technology developed the PV technology used in the canopies, and Atlanta-based SUNIVA manufactured the PV system. Other partners included design and building contractor New South Construction/Circle D Enterprises, engineering consultant ATC Associates, Inc., and Georgia Power Company.

This project serves as a national model for distributed renewable power generation at transit agencies, and should spur interest in and growth of solar power in Georgia.

In addition to reducing the agency's energy consumption and greenhouse gas emissions, this project added approximately 40 direct jobs during the construction phase.

About TIGGER

The Transit Investment for Greenhouse Gas and Energy Reduction (TIGGER) Program was established in 2009 by the U.S. Department of Transportation's Federal Transit Administration (FTA). Designed to reduce energy use and greenhouse gas emissions in transit agencies around the country, the TIGGER Program made funds available for capital investments that would reduce greenhouse gas emissions or lower the energy use of public transportation systems. An initial \$100 million in American Recovery and Reinvestment Act grants funded 43 competitively-selected transit projects. In 2010, the FTA provided an additional \$75 million in grants to fund 27 new TIGGER projects. These 70 projects are employing a variety of technologies to meet the program goals, including solar installations, building efficiency improvements, wind technology, wayside energy storage for rail, and purchase of more efficient buses. In fiscal year 2011, FTA provided an additional \$49.9 million to continue the program.

For More Information

MARTA:

www.itsmarta.com/

FTA TIGGER:

www.fta.dot.gov/TIGGER



U.S. Department of Transportation
Federal Transit Administration
1-866-377-8642

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